511 for 1932 showed there was marked tendency among
177 younger women to leave area and seek education,
167 permanent employment in Los Angeles, Bakersfield; young men, on other hand, tended to remain within area; this was probably because opportunities for employment at home more favorable for men than for women. Altogether, although present economic status of Tübatulabal is low, especially in wintertime, yet they are not on the whole an indigent group, but continue to be economically independent, as before white contact.

BASIC SUBSISTENCE

[24] Tübatulabal hunting-gathering group; all
511 forms agriculture lacking. Plant foods and game formerly plentiful in valley-foothill regions
222 (all informants); foods most frequently mentioned by informants are acorns and piñons, deer, rab-
224 bits, fish. No famine tales; among Tübatulabal
●226 plant-food resources better than in many parts of Calif. because this group had double access within w. and e. limits of area to acorns, central Calif. staple, and piñon nuts, Great Basin staple food. As piñons biennial crop, presence of acorns in area greatly augmented food resources. Furthermore, maturing of piñons and acorns is not simultaneous but successive, acorns following piñons, so that Tübatulabal could, and did, take advantage of both crops in early and late fall.

221 Yearly food cycle.- February to May. Mescal,
222 yucca whipplei stalks, tender immature pods of tree yuccas, various bulbs obtained in lower
224 foothills and floors of valleys by individuals.
226 Cached piñons, acorns being used. Large, small game hunted; geese obtainable in March. Fishing done by groups during April, from confluence of Kern and South Fork of Kern downstream (fig. 1). Family groups might also go W to Tulare lake to "eat ducks and fish" at this time.

May. Small seeds plentiful on floor, lower foothills of valleys; green pine nuts from Digger pine, juniper berries gathered in foothills;
[512] green plants gathered; "people went out in large groups, leaving houses early in morning, returning in evening" (MM). Cached acorns, piñons still being used. Large, small game hunted, especially rabbits, in valleys and foothills; occasional camp-hunting, bulb-gathering expeditions E across Sierras to Indian Wells valley and Mohave desert. Some fishing during early May in augmented Kern.

June. Some small seeds still available, depending on relative lateness of season; raw tule roots growing around springs eaten; wild tobacco growing in valleys pruned. Stores of cached acorns, piñons nearing depletion. Rabbit drives with nets in valleys; birds, large game hunted; little fishing as rivers in full flood from melting snows.

[251] July to middle of August. Season par excellence for drying commodities; roots of rush

221 dug near streams for drying; tobacco and salt
222 grass gathered on floor of valleys, cane for
224 sweets at Cane creek; manzanita berries gathered
● 226 in mts. Fish corralled, dried; fishing at summer fish camps in canyon of unaugmented Kern after snow floods had subsided; mussels obtained near Kernville. Brush fired for rabbits on floor of valleys; communal antelope drive with Yokuts near Bakersfield in San Joaquin valley. Trading expeditions to Yokuts, Chumash at Tejon, Ventura.

Middle of August to September. Piñons gathered in lower borders of piñon areas; juniper berries gathered. Some fishing using fish poison as streams became lower; water too warm for much fishing in lower reaches of Kern r. Birds, small game trapped at piñon grounds; deer hunted.

September to middle of October. Piñons gathered and cached at higher altitudes, e. part of area; wild grapes gathered near Inyo-Kern in Indian Wells valley on return trip from piñon gathering; acorns gathered near hamlets. Small game, birds trapped at piñon grounds; deer hunted.

Middle of October to middle of November. Ripe Digger pine nuts gathered near hamlets and in Hot Springs valley; acorns gathered by women and cached in Greenhorn mts., around Poso Flat, and in Paiute mts. while men hunted deer at acorn grounds; "deer, rabbits fat at this time." Ducks obtained on rivers; fishing with fish poison on Erskine creek in Hot Springs valley. Trips made by families to Tulare lake to eat ducks and fish.

Middle of November to February. Life centered in hamlets; acorn, piñon caches, stores of dried fish, meat drawn upon. Fish speared in November and December from balsas on rivers; deer, rabbits, ducks, quail, etc., occasionally hunted, trapped. Individuals made trips across Sierras E
[317 484] to Mohave desert to obtain rock salt from lakes which were in flood at this season.

262 824 Food preferences and rejections.- Of vegetable foods oily varieties highly esteemed; among acorns which were staple food, oily or sweet varieties which required little leaching preferred. Buckeye nuts, obtainable in quantity on slopes of Kern r. gorge, "too bitter," although occasionally used. Of 2 varieties pine nuts gathered, nuts from piñon pine (referred to throughout as piñons) ranked second to acorns as staple; piñons which had been strung on native twine rated as delicacies; black piñon mush (p. 18) considered better than white. Among small seeds those of 2 varieties of Mentzelia referred to as being better than chia seeds "because they had more grease" (SM).

252 824 Niceties in matter of diet extended to preparation of food and tobacco. Special varieties of willows, Salix hindsiana Benth. and S. exigua Nutt., used to wrap up fish which were to be roasted, tobacco when it was to be cured, as these willows did not impart any odor to food. Digger
[276] pine nuts, not piñons, mixed with tobacco "because they gave a better flavor" (FP,ES,SM).

349 springs. In early morning 2 men hid inside blind;
224 as birds, small game came to water one man shot them, other went outside to gather them in. This done chiefly on piñon expeditions. Traps, blinds, etc., used especially on camp-hunting expeditions, when men, women went E to desert in small groups to camp for week or so and gather food (SM; Voegelin, 1935 b, 211).

223 Waterfowl shot with bow and arrow; mud hens
[373] when very fat "couldn't fly; it was easy to shoot them" (SM). Lighted torches, made from sticks on which pitch had been smeared, waved under trees where quail roosting at night; as birds flew down they were easily clubbed. Inflammable brush never piled up and fired to attract waterfowl; live or stuffed birds not used as decoys.

252 Preparation of animal food.- Deer, other large game skinned while warm as it lay on ground; incisions made with stone knife as among Havasupai (Spier, 1928, 111); skin removed with knuckles of closed hand; "not much fat left on hide when it was skinned this way" (SM). Entire deer utilized; meat, guts laid directly on live coals to broil; meat never eaten raw, preferred "half done." Bones
[887] roasted, cracked, and marrow extracted. Old people with few teeth given liver (nï·man), which they pounded in small mortars or on flat rock. Flesh of other large game also either broiled on coals or stewed in clay pots; birds gutted (not gutted, MM), and plucked, roasted in ashes or impaled on stick and roasted over fire. Rabbits skinned, gutted, and broiled on coals, roasted in ashes, or stewed. Raccoons, of which Tübatulabal "ate lots," squirrels, woodrats gutted, hair singed off, roasted whole in hot ashes. All small game removed from ashes with "any kind of a stick." Deer head roasted in pit oven (šo·li·l, hole). Hole dug in ground, sides and bottom lined with flat rocks heated on open fire; head, unwrapped, denuded of horns, put into pit, covered with hot flat rock and pit sealed with sand or earth. Pit
[177] opened 12-14 hours later; head generally put in around sundown, taken out and eaten next morning. Cow heads now occasionally roasted in this way.

●226 Fish and mollusks.- Fish, both fresh and dried,
131 of importance in Tübatulabal diet. Obtainable in South Fork of Kern r., augmented and unaugmented Kern, streams such as Erskine creek, former lakes in South Fork valley, mt. lakes in hinterland. Fish (kuyu·l) included trout (ha'ayal), said to be native in mt. creeks (SM, FP), whitefish or bullheads (co·h), suckers (nimal), catfish (kaŋa·ganan), minnows (ko'oši'). Whitefish caught in irrigation ditches 30 yrs. ago so large that "when a man carried one over his shoulders, the tail of the fish scraped the ground" (FM); MM said man could hardly lift some of fish caught in corrals (below) and FP commented on how large fish were formerly.

Fresh-water mussels (čono', twins), which Gifford suggests are probably Anodonta oregonensis,

●226 obtained from unaugmented Kern, near present town of Kernville.

Fishing techniques and use of certain localities for fishing varied according to height of streams and temperature of water; location of few fish camps noted (p. 40). In spring before water too warm, fishing carried on at sites on augmented Kern. At rapids near w. end of gorge "there were lots of fish; the Tolowim (Bankalachi) used to camp there to fish, also the Tejon Indians (Yokuts) and Pahkanapil too. Sometimes the Monilabal and Palabatal (Yokuts groups) came up there to fish" (SM). Groups of Tübatulabal also camped at rock paintings farther upstream; fish harpooned from rocks mainly at these locations as water swift-running, with many pools.

[411] Pronged harpoon California type (Kroeber, Handbook, 86) consisting of pole (mi·št) 7-8 ft.
[227] long, with pair 6-in. foreshafts; toggleheads (wili·li·nist) 1 1/2 in. long, carved from deer bone; heads sharply pointed, barbed. Later in summer fishing activities shifted higher up river to sites on unaugmented Kern and to mt. lakes and streams. Round nets made of native twine, with 3-4 in. meshes and lacking handle, were used, being held up on each side by 2 men standing in water (FP); SM denied use of nets. Large nets, similarly made, stretched across stream, held up by 4 men (PN, FP). Net sinkers not used (FP, PN). Tule basket trap (wa·mat), similar to Pomo trap (Kroeber, Handbook, 172, pl. 33a), used in smooth water. Fish taken in nets speared (PN). Fishhooks
[321] (wele·haništ) were said to have been 2-piece, with single bone barb made from shank bone of deer. Barb filed to point on rock, blunt end attached at 45° angle to base of shank with wrapping of native twine which was given coating of
[283] asphalt to make it fast. Line made from native twine, smeared with asphalt; attached to end of long willow pole (wipšat). Earthworms, grasshoppers used for bait (tï·hat). Fishhooks and pole "not used very much" (SM); post-white (?). No double hooks, gorgets used.

226 Bulk of communal fishing in streams, rivers
476 done to obtain fish for drying. Informants dwelt
417 upon one method of communal fishing, although it is no longer practiced. Fish corral (pa·nil) built in shallow, fast-running water (fig. 2), "when there were lots of fish running." Wall of corral 2 1/2-3 ft. high; built up of large stones filled in with willow branches; diameter of round enclosure 7 ft., width of opening to corral 3 ft. Men went about 2 mi. downstream from corral, threw stones in water to drive fish upstream. Two men, stationed on either side of gateway to
[462] corral, beat water with long willow poles so that all the fish would swim into corral. Inside corral 2, 3 men bailed out fish, throwing them up on bank to women who collected them in large pile. Each participant in undertaking shared equally in distribution of fish, which was effected in same manner rabbits apportioned after drive (p. 13).

226 Another method of obtaining fish in large

●226
417

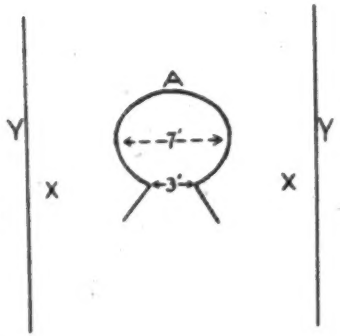

Fig. 2. Fish corral. A, wall of corral, X, men with poles, Y, banks of stream.

Another method of obtaining fish in large
226 quantities was to stupefy them; roots, stalks, leaves of plant (pa·lu·l) which "looks like cane, grows in moist soil, has leaves that get reddish-yellow in fall" and which SM identified from drawing as sp. of Smilacina, mashed slightly, thrown into quiet pools. Buckeye, turkey mullein, soaproot, all available to Tübatulabal and used by other tribes as fish poison, not used (SM, FP). In poisoning fish, no dam built; as fish floated to surface they were scooped up in conical twined tule baskets.

[171]

226 411 In winter fish sluggish, "hardly move"; mainly harpooned or speared from rafts in Kern r. and South Fork valley lakes by individuals. Fish spear long pole with 2 wooden points sharpened by rubbing on rock.

252 Fresh fish cleaned, roasted whole; 4 large fish often tied together, wrapped in branches of odorless willows (poyiWošt; p. 11) and cooked in ashes at fishing place; carried home in willow wrapping. Mussels cooked by roasting in shells in hot ashes. Fish one of foods Tübatulabal stored for winter use.

[251]

824 137 Ethnobotany.- Botanical collections made chiefly in South Fork, Kern valleys, and surrounding foothill regions in May-July; collections checked with SM, ES chiefly. Some 220 species collected, 130 of which informants said were put to economic or medicinal uses; 56 of these ethnobotanical species belong to foothill floral area, 40 to desert floral area, 10 to Great Basin floral area; remainder general in distribution.

In identifying specimens, informants tasted, smelled plants if dubious about identification.

Of plant foods, those starred mentioned most frequently by informants; possibly these plants used most commonly for food in aboriginal times.

Nuts, large seeds (generic term, punẓil) included: *Acorns (generic term, wa'ant). Six varieties used: (1) acorns (maṇi·l) from blue oak (maṇi·'u·l), Quercus douglasii H. & A., foothill floral area; these grow on n. slopes of Paiute mts. at s. borders Tübatulabal area; nuts mature annually, large, "don't taste bitter after leach-

[p. 14(6)]

352 deer sinew (t[illegible]·lĭŋ tapn); all bars except bot-
854 tom one bound on underside of frame. Second specimen (1-28571) measures 43 in. overall, 35 in. from crotch to top; has 10 crossbars, nailed to frame as above; both specimens made and used by SWN. Both these cradles lack hood (ku·man); formerly tule hood, narrow at sides where it was fastened to cradle near top, and wider across central section, would have been attached to such cradle (SM, FP); strings of beads, which served to amuse child, depended from hood. Child
[482] lay on tule mat, wrapped in wildcatskin, tied down with native twine. Woman packed cradle on back, using pack strap; when she arrived at destination she leaned cradle up against tree or boulder, in shade, planting sharpened end of forked-stick frame in ground.

301 Sex of child occupying cradle not indicated
352 by any sort of decoration on either type of
562 cradle (all informants); repeated questioning on this point always brought negative response.

501 Rafts and ferriage; horses.- Large green
● 226 tules (ši'i·bĭ·l), Scirpus acutus Muhl., from 6-8 ft. long, were tied with native twine into bundles of 4; these bundles were laid side by side and lashed together with native rope to make raft (ni·ht) 6-8 ft. long, 6 ft. wide (SM). This raft was square at both ends and not built
[221] up on sides; could carry 2 men and was used for spearing large fish on smooth stretches of Kern r. or on former lakes in South Fork valley, during winter only. Such raft serviceable only so long as tules remained wet; when tules dried out, raft became leaky, was discarded. Single individuals made such, but any man might use raft; when not in use, rafts kept drawn up on river bank.

Willow pole 6-7 ft. long, 2-3 in. in diameter, pointed at one end, used to propel raft. Man doing poling either stood or sat, shifting pole from one hand to other, while second man speared fish.

501 Kroeber mentions "balsas of bundled tules,
481 with a keel, a slender prow, and a square stern, (which) were made" by Tübatulabal (Handbook, 608); this information evidently based on Powers' statement (Powers, 393), obtained from widely-traveled Tübatulabal named Chico at Tule River reservation (Powers, 394). None of my informants knew anything about craft such as Powers describes. Garcés "supplicated [the Indians] that they should make a raft" to take him across unaugmented Kern, "and they answered me that they knew not [how to do so]. They conveyed me across between four of them by swimming, two taking me by the arms, and the other two by the body" (Garcés, 281). Garcés' statements accord with FP's assertion that goods or young children were ferried across large streams on men's backs, and
[221] SM's that men, women, children were all good swimmers, and that tule rafts were used only in winter, for very specialized purpose. Pots, large

3. Voegelin E-5 (1931-1933) 1935
NS22 Tübatulabal NS22

857
152. Then that one, that one who hides it, is shooting next. 153. Then he is shooting that 539 X
target. 154. Then they are paying him one arrow. 155. Then some are going back to their 159
own houses without their own arrows, when losing. 526

156. Then from there again we are playing another game—red clay. 157. We are making 539 X
dolls, we are building everything, coyotes and also bears, wolves, and also people; we are 159
doing everything all the time. 158. When making that red clay into dolls, we then put that 524
already made doll in the heat. 159. Then from there when drying, it is getting hard. 160. It 857
lasts a long time.

161. Then from there we are playing another game again, the hide game. 162. Then we 539 X
are putting one boy (to be "it"). 163. We are tying his eyes with a rag. 164. Then he is 159
seeing nothing. 165. Then from there, having finished tying him, we are all hiding. 166. 526
Then he is looking for us. 167. "Where are you?" he is saying. 168. "This way," we are 857
saying. 169. Then he is coming running. 170. Then some are coming in his tracks. 171. Then
he takes a jump backward. 172. Then he is grabbing one (boy). 173. Then that one does
the same next.

174. Then we never play again. 175. Then we used to hunt deer all the time, it being 539 X
summer. 176. Then, also, we are going camping. 177. From there we used to hunt deer. 159
178. And also from there we are going fishing in the north fork. 179. We are catching many 224
fish, trout, and also bullheads. 180. Then we are making "jerky"; we are drying (the fish). [251]
181. Then, also, from there again, we are going fishing the next day. 182. Then also we are 226●
again making those (fish) into "jerky." 183. And also we are again hunting deer. 184. We [464]
are hunting every day. 185. Then after staying there five days, we are coming back from
there, we are coming toward our own home. 186. Then also, upon arriving, we are working
again when we find those jobs (on the ranches of white men).

187. Then also, from there again, in another summer, we are going to gather pine nuts. 539 X
188. We are all going and gathering, my mother, too (she did not go on the previous hunt- 159
ing and fishing trip)—we all, and also again many different people not our relatives (but) 222
different people. 189. (There are) many people. 190. Then they fix blackened pine nuts in 857
the evening. 191. Then we used to kill deer. 192. Then we are staying there all summer
gathering pine nuts. 193. We are gathering one sack every day. 194. And also we are roasting
the raw ones; we are gathering (them) when they fall down. 195. We used to gather (them)
every day. 196. From there we are coming back, the pine nuts being already exhausted.
197. Then we are packing the pine nuts. 198. All the many pine nuts were packed by us,
perhaps twenty sacks. 199. Then when all are coming back toward their own homes, we
are packing (the pine nuts). 200. It being winter, we used to eat that, blackened pine nuts, [262]
and also rabbit with acorn gravy, and also everything (else), deer, fish, everything, we
used to eat. 201. (There are) many acorns; we used to gather those too. 202. It being
autumn already when they are falling, we are going and gathering the acorns. 203. Then
already many are falling. 204. Then we are shelling those acorns. 205. Then our mother is [252]
drying (them). 206. Then when they are drying, she is going to pound (them) in the pit
mortar. 207. Then, having finished pounding that, she is leaching it in the leaching place
(a hole in sand on the edge of a stream). 208. Then, when going to leach it, she is irrigat-
ing it until noon. 209. Then from there she is gathering that up. 210. Then she is stirring
that in the clay pot. 211. Then she is bringing that toward the house. 212. We are eating
that for some time without bread. 213. We are eating acorn gravy nearly all winter.

214. Then from there my father made a fiesta. 215. First he called the Yokuts. 216. "I 539 X
shall make a fiesta," he is saying, "and all of you come in future," he is saying, "on that 159
day," he is saying; "then we will enter upon it together when I make (fiesta)," he is 527
saying; "pretty soon in five days we will make fiesta," he is saying. 217. Then from there [225]
they all arrived there on the day. 218. They all entered upon it together. 219. Then the 624
clown is saying "Pretty soon we shall gamble," he is saying, "and also the hand-game
(will be played)," he is saying. 220. "Good," the people are saying. 221. Then they
gambled that night. 222. For two or three nights they gambled. 223. Then the clown